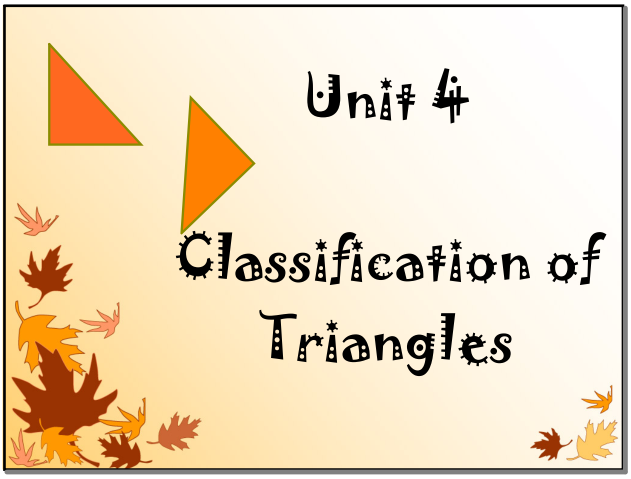
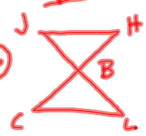


Oct 10-8:04 AM

p210

(26)

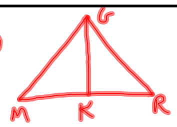


Prove: $\triangle JHB \cong \triangle LCB$

1) $\overline{JL}$ bisects $\overline{HC}$ $\overline{HC}$ bisects $\overline{JL}$	

Mar 23-7:01 AM

(27)

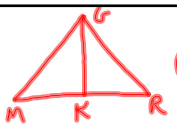


Prove: $\triangle MGK \cong \triangle RGK$

1) $\triangle MGR$ is an isosc $\triangle$ w/ vertex $\angle MGR$ K is mdpt of $\overline{MR}$	1)

Mar 23-7:02 AM

27



Prove: $\triangle MGK \cong \triangle RGK$

1) $\overline{GK} \perp \overline{MR}$ $\overline{GK}$ bisects $\overline{MR}$	1) Given

Mar 23-7:02 AM

4.1

B. Types of Triangles

Classified by SIDES

- Equilateral: ____
- Isosceles: _____
- Scalene: ______

Classified by ANGLES

- Right: ______
- Obtuse: ______
- Acute:_______
- Equiangular: _____

Oct 8-7:40 AM

B. Types of Triangles

Classified by SIDES

- Equilateral: all sides congruent
- Isosceles: at least 2 sides congruent
- Scalene: NO congruent sides

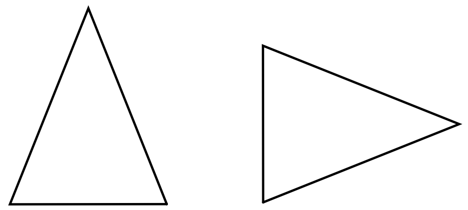
Classified by ANGLES

- Right: one right angle
- Obtuse: one obtuse angle
- Acute: all acute angles
- Equiangular: all angles congruent

Oct 8-7:40 AM

Example:

Draw an isosceles triangle.
Label the triangle RST.

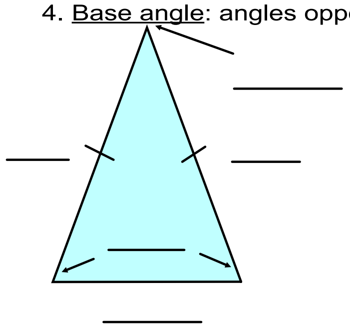


Mar 11-1:21 PM

III. Isosceles and Equilateral Triangles

A. *Isosceles Triangle*: Δ with at least 2 ≅ sides

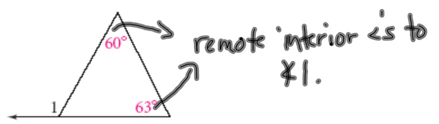
1. Legs: the 2 ≅ sides
2. Base: non ≅ sides
3. Vertex angle: angle between the legs
4. Base angle: angles opposite the ≅ sides



Oct 10-7:55 AM

C. Exterior angles: an angle formed by a side and an extension of an adjacent side

D. Remote Interior angles: two non-adjacent interior (for each exterior angle)



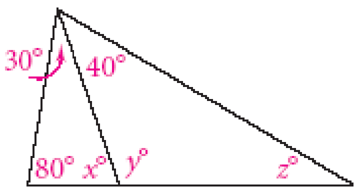
E. The measure of each exterior angle of a triangle equals the sum of the measure of its two remote interior angles.

Jul 17-12:52 PM

III. Triangles

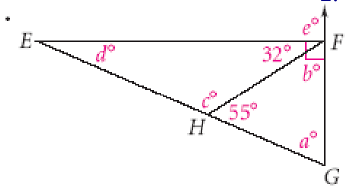
A. Triangle sum theorem: the sum of the measures of all the angles in a triangle equals 180°

Ex:

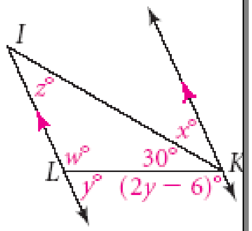


Jul 17-10:54 AM

1.



2.



Oct 8-2:39 PM

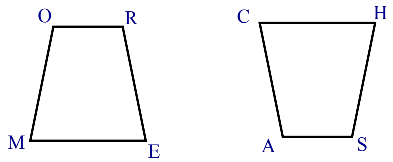
Unit 4: Congruent Triangles

4.3

I. Congruent Figures

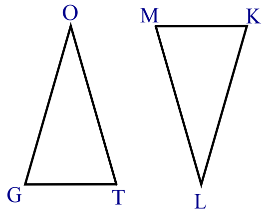
A. Congruent polygons have congruent corresponding angles and sides.

polygon MORE $\cong$ polygon CASH



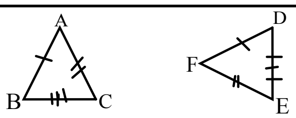
Oct 10-8:10 AM

B. Congruent Triangles: two or more triangles with congruent corresponding angles and sides.



$\Delta GOT \cong \Delta MLK$

Oct 23-12:21 PM



parts that correspond

<A	$\overline{AB}$
<B	$\overline{AC}$
<C	$\overline{CB}$

Congruence statement $\triangle ABC \cong \triangle$ ______

If two triangles are congruent, then all corresponding parts are congruent.

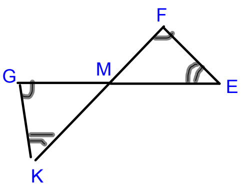
CPCTC- **C**orresponding **P**arts of **C**ongruent **T**riangles are **C**ongruent

Oct 10-7:55 AM

If $\triangle ABR \cong \triangle TRB$

Then $\angle BAR \cong$ ______

TR = ______ $m\angle R$ = ________



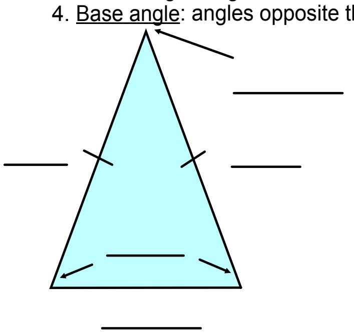
Write a congruence statement for the triangles

Oct 8-9:48 AM

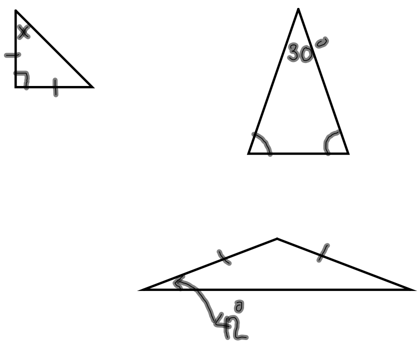
III. Isosceles and Equilateral Triangles

A. *Isosceles Triangle*: Δ with at least 2 $\cong$ sides

1. Legs: the 2 $\cong$ sides
2. Base: non $\cong$ sides
3. Vertex angle: angle between the congruent sides
4. Base angle: angles opposite the congruent sides



Oct 5-11:18 AM



Oct 5-11:19 AM

Theorems

theorem sheets!

1. If 2 sides of a Δ are $\cong$, then < opposite those sides are $\cong$

< opposite $\cong$ sides are $\cong$

Isosceles Triangle Theorem

2. If 2 < of a Δ are $\cong$, then sides opposite those < are $\cong$

sides opposite $\cong$ < are $\cong$

Converse of the Isosceles Theorem

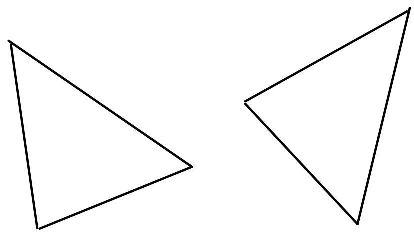
Oct 5-11:17 AM

http://nlvm.usu.edu/en/nav/frames_asid_165_g_1_t_3.html

Oct 5-10:53 AM

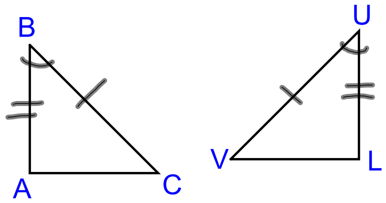
II. Proving Congruent Triangle

A. Side-Side-Side Theorem (SSS)

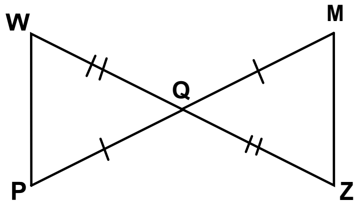


Oct 10-7:54 AM

B. Side-Angle-Side Theorem (SAS)



Oct 24-9:04 AM

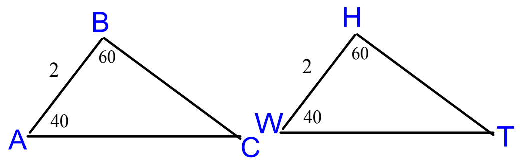


$\triangle PQW \cong \triangle MQW$

by .... ________

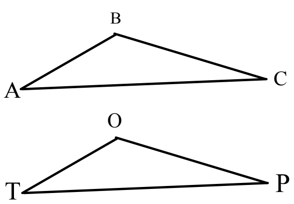
Oct 24-9:17 AM

C. Angle-Side-Angle Theorem (ASA)

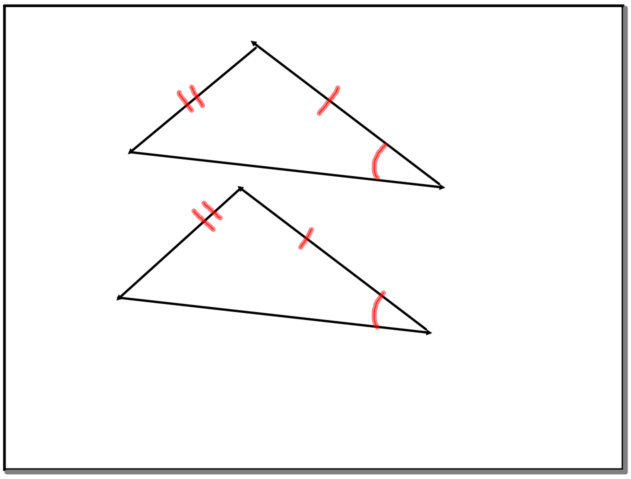


Oct 10-7:54 AM

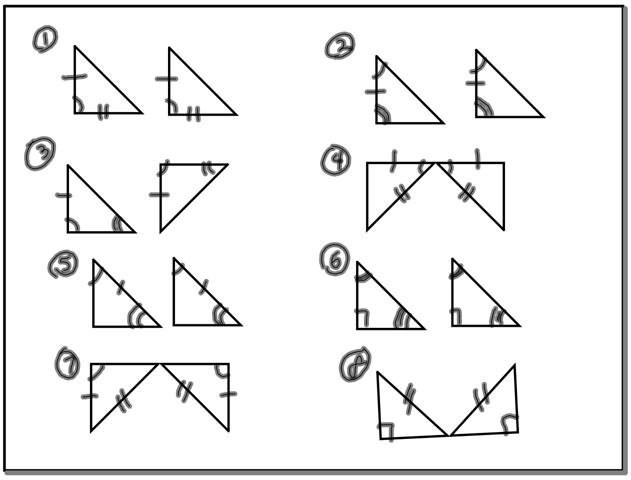
D. Angle-Angle-Side Theorem (AAS)



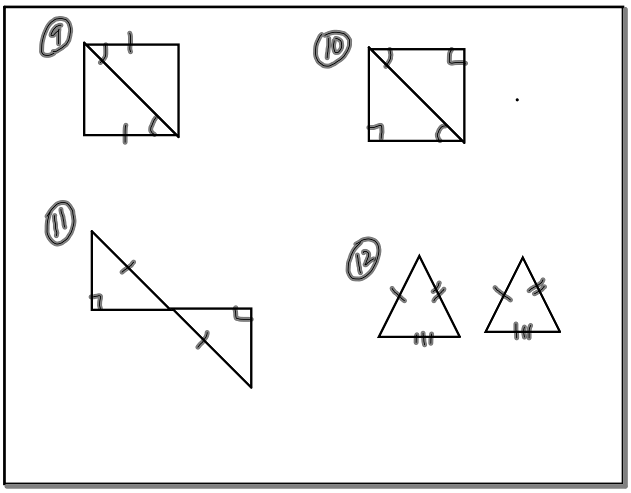
Oct 10-7:54 AM



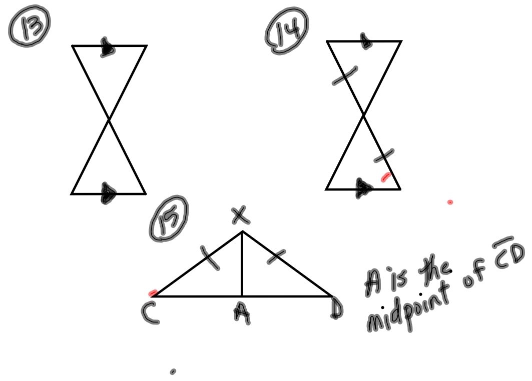
Mar 15-10:09 AM



Mar 15-7:07 AM



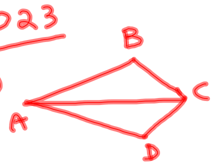
Mar 15-7:11 AM



Mar 15-7:15 AM

p23

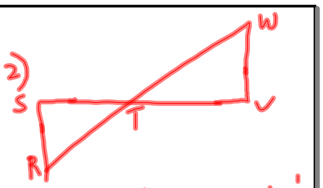
1)



Given: $\overline{AB} \cong \overline{AD}$
$\overline{BC} \cong \overline{DC}$

Prove: $\triangle BCA \cong \triangle$ ____
by: ____

2)



Given: $\angle S$ & $\angle V$ are rt. $\angle$'s
T bisects $\overline{SV}$

Prove: $\triangle RST \cong \triangle$ ____
by ____

Oct 11-6:48 AM

To write a proof for 2 ≅ triangles:

1. Given: write *exactly* as given

2. 3 ≅ statements: ≅ sides or angles

3. ≅ triangle statement
   (only reasons: SSS, SAS, ASA, AAS)

Oct 25-10:15 AM

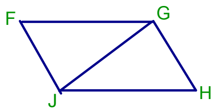
Warm-up

#2

Given: $\angle F \cong \angle H$

$\overline{FG} \parallel \overline{JH}$

Prove: $\triangle FGJ \cong \triangle HJG$



Proofs:

Statements	Reasons

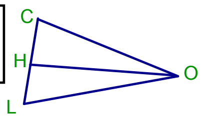
Oct 10-7:55 AM

Oct 5-11:09 AM

Oct 5-11:10 AM

#3

Given: $\angle OHL$ and $\angle OHC$ are right $\angle$
$\overline{OH}$ bisects $\overline{CL}$
Prove: $\triangle OHC \cong \triangle OHL$



Proofs:

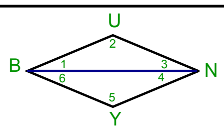
Statements	Reasons

Oct 10-7:55 AM

#4

Given: $\overline{BU} \parallel \overline{YN}$
$\overline{BY} \parallel \overline{UN}$
Prove: $\triangle BUN \cong \triangle NYB$

Proofs:

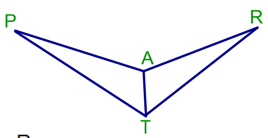


Statements	Reasons

Oct 10-7:55 AM

#5

Given: $\angle P \cong \angle R$
$\overline{AT}$ bisects $\angle PTR$
Prove: $\overline{PA} \cong \overline{AR}$



Proofs:

Statements	Reasons

Oct 10-7:55 AM

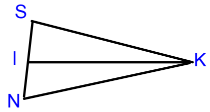
#6

Given: $\overline{KI} \perp \overline{SN}$

$\overline{KI}$ bisects $\overline{SN}$

Prove: $\angle S \cong \angle N$

Proofs:



Statements	Reasons

Oct 10-7:55 AM

B. Theorems

1. If 2 sides of a Δ are ≅ , then < opposite those sides are ≅

   < opposite ≅ sides are ≅

   Isosceles Triangle Theorem

2. If 2 < of a Δ are ≅ , then sides opposite those < are ≅

   sides opposite ≅ < are ≅

   Converse of the Isosceles Theorem

Oct 30-8:19 PM

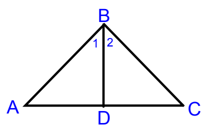
#7

Given: $< A \cong < C$

$< 1 \cong < 2$

Prove: $\overline{AD} \cong \overline{DC}$

Proofs:



Statements	Reasons
1 $< A \cong < C$, $< 1 \cong < 2$	1 given

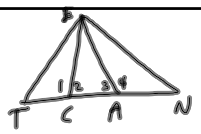
Oct 10-7:55 AM

$\left.\begin{array}{l}\text{SAS}\\ \text{SSS}\\ \text{ASA}\\ \text{AAS}\end{array}\right\}$ reasons $\Delta \cong \Delta$

CPCTC → after $\Delta \cong \Delta$

→ reason $\angle \cong \angle$ $- \cong -$

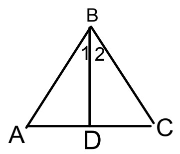
Oct 31-1:32 PM



Prove: $\Delta NEC \cong \Delta TEA$

1) ΔTEN is isoc w/ base $\overline{TN}$ $\angle 2 \cong \angle 3$ $\angle T \cong \angle N$	1) G
2)	

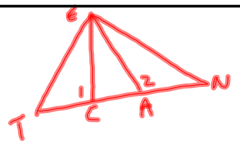
Mar 24-9:27 AM



Given:
D is the midpoint of $\overline{AC}$
$\angle A \cong \angle B$

Prove: $\angle 1 \cong \angle 2$

Oct 21-10:20 AM

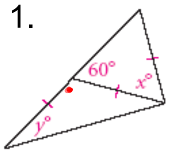


Prove:
ΔECA is isosc Δ

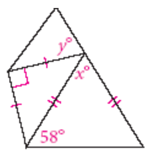
1) $\angle T \cong \angle N$
$\angle 1 \cong \angle 2$

Mar 24-9:29 AM

1.

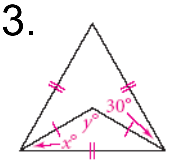


2.

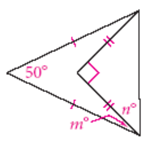


Oct 19-7:39 AM

3.



4.

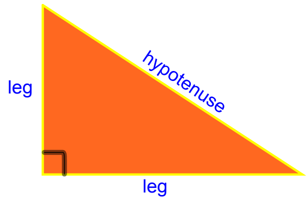


Oct 30-8:32 PM

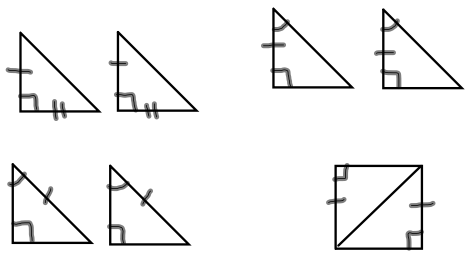
IV: Right Triangles and Congruence

A. Right Triangle: Δ with 1 right <

1. hypotenuse: side opposite the right < (longest side)
2. legs: sides of the right <



Oct 10-7:57 AM



Mar 24-12:37 PM

B. Proving triangles

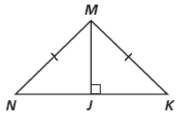
1. Proving any triangles:
   - Given statement
   - 3 ≅ statements
   - Δ ≅ Δ (SSS, SAS, ASA, AAS)
2. Proving right triangles:
   - Given statement
   - 2 ≅ statement
   - Right Δ statement
   - Δ ≅ Δ (Hypotenuse-leg HL)

HA, LL , LA and HL

Oct 10-7:57 AM

Given: $\overline{MJ} \perp \overline{NK}$, $\overline{MN} \cong \overline{MK}$

Prove: $\triangle MJN \cong \triangle MJK$

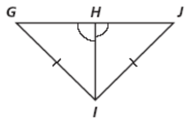


Statements	Reasons

Oct 10-7:57 AM

Given: $\overline{GI} \cong \overline{JI}$, $\angle GHI \cong \angle JHI$

Prove: $\triangle IHG \cong \triangle IHJ$



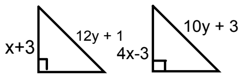
Statements	Reasons
1	

Oct 10-7:57 AM

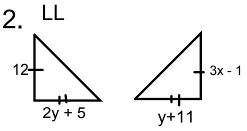
Warm- up

What values of x and y are the triangles congruent by ?

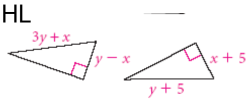
1. HL



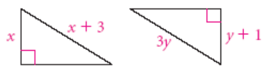
2. LL



3. HL



4. HL



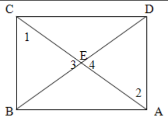
Oct 19-7:52 AM

Warm- up

Given: $\overline{BC} \cong \overline{DA}$

$< 1 \cong < 2$

Prove: $\Delta BEA \cong \Delta DEC$

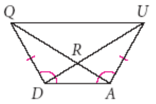


Statements	Reasons

Oct 10-7:57 AM

Developing Proof Name a pair of overlapping congruent triangles in each diagram. State whether the triangles are congruent by SSS, SAS, ASA, AAS, or HL.

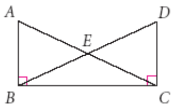
2. **Given:** $\overline{QD} \cong \overline{UA}$, $\angle QDA \cong \angle UAD$



Oct 31-2:43 PM

Given: $\overline{AB} \perp \overline{BC}$, $\overline{DC} \perp \overline{BC}$, $\overline{AC} \cong \overline{DB}$

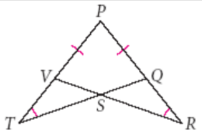
Prove: $\overline{AB} \cong \overline{DC}$



Statements	Reasons

Oct 10-7:57 AM

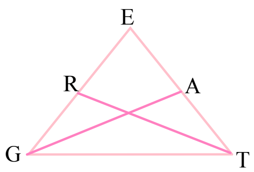
Given: $\angle T \cong \angle R, \overline{PQ} \cong \overline{PV}$
Prove: $\angle PQT \cong \angle PVR$



Statements	Reasons

Oct 31-2:45 PM

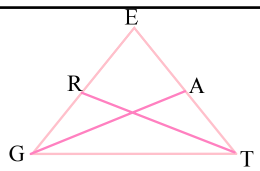
Given: $\overline{TR} \perp \overline{GE}, \overline{GA} \perp \overline{TE}$
$\overline{GR} \cong \overline{AT}$
Prove: $\overline{GA} \cong \overline{RT}$



Statements	Reasons

Oct 23-8:04 AM

Given: $\overline{TR} \perp \overline{GE}, \overline{GA} \perp \overline{TE}$
$\overline{RE} \cong \overline{EA}$
Prove: $\overline{GA} \cong \overline{RT}$



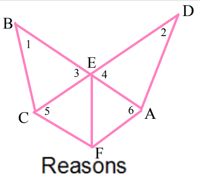
Statements	Reasons

Oct 23-8:05 AM

Given: $\overline{BC} \cong \overline{DA}, <1 \cong <2$

$\overline{CF} \cong \overline{AF}$

Prove: $<5 \cong <6$



Statements	Reasons

Oct 23-8:04 AM

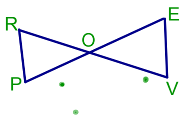
#1

Proofs:

Given: $<P \cong <E$

O is midpt of $\overline{PE}$

Prove: $\Delta POR \cong \Delta EOV$



Statements	Reasons

Oct 10-7:54 AM

Oct 10-7:57 AM